REMARKS/ARGUMENTS

I. Status of Claims

- Claims 1 and 7 are Independent Claims.
- Claims 1 and 7 are currently amended.
- Claims 1-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Seare et al. (US Pat. No. 5,557,514) (hereinafter referred to as **Seare**) in view of Ziegele et al. (PG Pat. No. US 2005/0125257) (hereinafter referred to as **Ziegele**) and further in view of Lockwood (US Pat. No. 5,706,441) (hereinafter referred to as **Lockwood**).

II. Response

A. Claims 1-8 have been amended.

Independent Claims 1 and 7 have been amended to explain the meaning of "episode." Support can be found, for example, in paragraphs [0005] and [0025] of the Specification. See **Specification**, paras. [0005], [0025]. Dependent Claims 2-6 and 8 have been amended as well to reflect their dependency on their respective independent claims.

B. The combination of Seare with Ziegele and Lockwood does not address Applicants' claimed elements presented in Claims 1-8.

Applicants note that the major impetus of the obviousness rejections is based on **Seare**. **Ziegele** is used in combination with **Seare** to reject the probability analyzer and calculations claimed element. **Lockwood** is used in combination with **Seare** to reject the severity analyzer claimed element. As such, Applicants attempt to respond to the obviousness rejections with a focus on the claimed elements to which the prior art combination addresses.

1. The definitions of "episode of care" and equivalent terms used in the prior art differ from the definition of "episode of care" and its equivalent term "episode" used in the claimed invention.

Generally, words in a claim are to be given their plain meaning unless the plain meaning is inconsistent with the specification. See MPEP § 2111.01(I). Plain meaning refers to the ordinary and customary meaning given to a term by those of ordinary skill in the art. See MPEP § 2111.01(III). However, where an applicant chooses to deviate from the plain meaning, the applicant may become his own lexicographer and create a definition in the specification that differs from the plain meaning. See MPEP § 2111.01(IV).

Each of the cited prior art refers to "episode of care" and equivalents to include healthcare services. Specifically, **Seare** defines "episode of care" as "all healthcare services provided to a patient for the diagnosis, treatment, and aftercare of a specific medical condition." See **Seare**, col. 23, ll. 9-12. **Lockwood** uses the term "sickness episode" and defines it as "a time period that begins when a patient is injured or begins to feel sick and ends when the patient is no longer sick or injured." See **Lockwood**, col. 10, ll. 13-15. Furthermore, "each sickness episode data record built by system **80** will contain data representative of all diagnoses pertaining to the sickness episode, and all procedures and services performed by each health-care provider in the network in connection with the sickness episode." See id. at ll. 23-29.

While **Ziegele** does not use either "episode of care" or an equivalent, **Ziegele** describes his invention through a "diagnostic information record," whether historical or current. Yet, **Ziegele** apparently also focuses on healthcare services. For instance, **Ziegele** combines historical diagnostic information record and historical prescription information record that represents, for example, diagnostic information determined by a pre-determined set of sample medical

professionals within a pre-determined period of time. See **Ziegele**, para. [0025]. Moreover, current diagnostic information record contain diagnostic information determined by doctors during patient visits. Id. at para. [0026].

In essence, when **Seare**, **Ziegele**, and **Lockwood** are combined, the combination discloses an invention that uses and/or focuses on healthcare services (e.g., all services, procedures, and diagnosis services performed by healthcare professionals) for episodes of care and diagnostic information records.

Examiner had pointed out in the 07/09/2008 office action that the term "episode of care" is not recited in the claims of the claimed invention. See Office Action (dated 07/09/2008), p. 14, part. 6.A.

To clarify, Applicants use the term "episode of care" interchangeably with the term "episode" and even "episodes of care" throughout the Specification. It just happens to be that the original claims used the term "episode".

As for the definition, each of these interchangeable terms does not include healthcare services. Simply, whether using "episode" or "episodes of care" or "episode of care", Applicants intended these terms to mean a group of diagnoses on the same patient that describes the course of a given illness. See **Specification**, para. [0025]. What Applicants did not want was to have these interchangeable terms to depend on the nature of services delivered, the doctor delivering services, or the site of services. Id.

Even though Applicants have taken these terms to be defined as such, Examiner noted that paragraph [0025] of the Specification shows conditional language for the definition and has taken its context to be an example as opposed to a strict definition. See Office Action (dated 07/09/2008), p. 15, part. 6.A, para. 2. If consideration is to be given to the description of

interchangeable terms, Applicants need to amend the claim language because limitations from the specification cannot be read into the claims. Id. at para. 3.

Heeding Examiner's advice, Applicants have amended Claims 1 and 7 to specifically identify what "episode" is. Again, because Applicants have used the terms "episode" and "episode of care" interchangeably throughout the Specification, Applicants believe these amendments apply to these terms.

Now, comparing the prior art combination and Applicants' claimed invention, one can see that the prior arts' episodes of care refer to the use of healthcare services, whereas Applicants' claimed invention does not. In determining the severity of an episode of care, Applicants' claimed invention focuses on the nature of the diagnosis, as opposed to the intensity of visits, as the basis for classifying visits into episodes. See **Specification**, para. [0005]. If healthcare services were to be included in Applicants' claimed invention, then such inclusion would substantially change how Applicants measure the severity of an episode of care.

Because of this significant difference, Applicants believe the **Seare-Ziegele-Lockwood** combination does not address the claimed invention's elements. Therefore, Applicants respectfully request these obviousness rejections be withdrawn.

2. Ziegele's correspondence probability is based both diagnosis and prescription data, whereas Applicants' probability calculation is based only on diagnosis data.

Examiner stated that while **Seare** does not teach a probability analyzer, **Ziegele** teaches a probability analyzer. See Office Action (dated 07/09/2008), p. 4, para. 6 – p. 5, para. 2. Thus, Examiner believes that the combination of **Ziegele** and **Seare** reads upon that of the claimed invention. Again, Applicants respectfully disagree.

The roadmap of Applicants' discussion can be summarized as follows. The first subsection points out the explicit language and meaning of **Ziegle's** linkage. The second subsection identifies the traits **Ziegele's** probability analyzer and the traits of Applicants' probability analyzer. The third subsection discusses the **Seare-Ziegele** combination versus the Applicants' claimed invention.

a. Ziegele compares a diagnostic information record with a prescription information record, whereas Applicants compares a diagnosis record with another diagnosis record.

According to **Ziegele**, an automated data linkage technique can be generated by linking a plurality of diagnostic information records and a plurality of prescription information records. See **Ziegele**, para. [0011]. Examiner stated that the recitation of "'… links between a **plurality of diagnostic information records** and a plurality of prescription of information records…' which are used for '… determining one or more … probabilities…' meet the claim limitation of '… using at least two of said multitude of diagnosis records as input entries…'". See Office Action (dated 07/09/2008), p. 16, part. 6.B.

However, what Examiner appears to be presupposing is that the plurality of diagnostic information records speaks to Applicants' usage of two or more multitude of diagnosis records. This notion is not what **Ziegele** is saying.

Applicants implore Examiner to look at the language **Ziegele** uses. **Ziegele's** paragraph [0014] states "… a method for creating data links between a plurality of diagnostic information records and a plurality of prescription information records includes the steps of …". See **Ziegele**, para. [0014]. The key words are "data links between" and "and". Grammatically, this

linkage means taking diagnostic information and taking prescription information to create a diagnosis-to-prescription relationship. Id. at para. [0014].

What this language does not mean is making a link only among diagnostic information. Furthermore, what this language does not mean is making a link only among prescription information. If **Ziegele** had intended this kind of linkage, **Ziegele's** specification would have reflected as such. But, when one reviews **Ziegele** in its entirety, the breadth of **Ziegele** speaks to a combination made up of diagnosis information and prescription information. It is not a combination of data from only just one type or data from only the other type.

The steps that **Ziegele** announces in this paragraph clearly identify **Ziegele's** invention. The first step is to derive one or more diagnosis-to-prescription relationships based on an analysis of a plurality of diagnostic information and a plurality of prescription information. See **Ziegele**, para. [0014]. The second step is that for each of these diagnosis-to-prescription relationships, a correspondence probability is determined between one or more of the diagnostic information records and one or more of the prescription information records. Id. at paras. [0014], [0023]. Again, it is the diagnostic-to-prescription relationship that is the focus of **Ziegele**.

Furthermore, one can even just refer to all of the tables disclosed throughout **Ziegele** to get an idea of what **Ziegele** is disclosing. See e.g., **Ziegele**, paras. [0079], [0111]-[0131], TABLES B-K. The tabular data shown reflect the various possibilities of relationships that can exist between diagnostic records and prescription records. In particular, **Ziegele** announced that there can be a one-to-one relationship (meaning one diagnostic record and one prescription record), one-to-many relationship (meaning one diagnostic record and multiple prescription records), many-to-one relationship (meaning multiple diagnostic records and one prescription

records), and many-to-many relationship (meaning multiple diagnostic records and many prescription records). See **Ziegele**, paras. [0027]-[0028].

b. Ziegele probability calculator compares a diagnostic information record with a prescription information record, whereas Applicants probability analyzer compares a diagnosis record with another diagnosis record.

Examiner noted that in **Ziegele's** paragraph [0032], the probability is calculated by dividing a probability numerator by a probability denominator. See Office Action (dated 07/09/2008), p. 7-8, part D. Once again, Applicants reiterate that **Ziegele** teaches a correspondence probability that compares records based on a diagnostic-to-prescription relationship. See supra, § II.B.2. This relationship is not the diagnostic-to-diagnostic relationship taught in the claimed invention. Id.

In creating a probability table, **Ziegele** extracts historical good data files. From each historical good data file, all combinations of diagnostic information records and prescription information records, as well as the frequency of occurrence of such combinations, are determined. See **Ziegele**, para. [0032]. "The frequency of occurrence is determined from the historical good data file **222** by calculating how many times a particular diagnostic information record is combined with a particular prescription information record [the probability numerator], and dividing that number with the total number of combinations in the historical good data file **222** [the probability denominator]." Id. In essence, the probability numerator relates to the frequency of a diagnostic-to-prescription relationship. The probability denominator relates to the total number of diagnostic-to-prescription combinations. This description simply resonates

additional support that the relationship **Ziegele** looks at is that of a diagnostic-to-prescription relationship.

Here, Applicants' probability calculation does not involve diagnostic-to-prescription relationships. As mentioned above, Applicants' probability P_{ia} may be defined as "the probability that the diagnosis 'i' and diagnosis 'a' belong to the same episode." See **Specification**, paras. [0027]-[0037]. By operating on a pair of diagnosis records, Applicants' probability calculation involves only diagnostic-to-diagnostic relationships. See id. at para. [0037]. "The probability numerator may be set to the similarity value times a first constant, and the probability denominator may be set to the quantity of a second constant times the time between diagnosis value plus one." Id. at para. [0038]. Similarity value relates to the similarity between a pair of diagnostic records (i.e., a diagnostic-to-diagnostic relationship), whereas time between diagnosis value relates to the time between a pair of diagnostic records (i.e., a diagnostic-to-diagnostic relationship). Id. at para. [0037].

Therefore, by virtue of calculating different variables under different definitions for probability calculation, combining **Ziegele** with **Seare** will not work to read upon Applicants' claimed invention.

c. The Seare-Ziegele combination does not address a diagnostic-to-diagnostic relationship.

As a side note, Examiner had also mentioned that, in addition to **Ziegele's** probability calculation, **Seare** teaches a similarity value that may resemble Applicants' probability calculation method. See Office Action (dated 07/09/2008), p. 18, part E. Furthermore, Examiner states that **Seare** discloses a time between diagnostic value, shows various ratios

associated with these parameters, and processes a relationship involving episodes of an index code over a period of time. Id.

But, the problem that **Seare** presents starts at the heart of **Seare's** disclosure. Simply, **Seare's** values are based on healthcare provided services, as opposed to the nature of the diagnosis. See supra § II.B.1. In particular, **Seare** assesses utilization patterns of medical services to analyze how cost-effective are a healthcare providers' billing patterns. Id.; see also **Seare**, col. 19, ll. 52-54. Using codes and reference tables, Seare compares providers' services for specific diagnoses or medical conditions. See **Seare**, col. 19, ll. 54-58.

Now, when one looks at the reference tables, it should be noted that **Seare** does present a window table. See **Seare**, col. 9, l. 63 – col. 10, l. 20. This table talks about counting the number of days of pre-episode without medical services and the number of days of post-episode without medical services. Id. Such window provides for how long a "clear window" is needed on both ends of **Seare's** episode of care to be valid. Id.

Seare needs this clear window to define the onset and resolution points of a diagnosis to establish an episode of care. See **Seare**, col. 24, ll. 60-61. However, because **Seare** premises episodes of care on services, this window just merely identifies the time frame for when healthcare services (such as surgical services) can be rendered according to other qualifying tables. See e.g., **Seare**, col. 24, l. 58 - col. 25, l. 62 (checking for at least two dates of treatment services after identifying the time frame of pre-episode and post-episode). This kind of identification differs from Applicants' version.

Speaking of tables, another key note to highlight is the construction of the tables. **Seare's** tables appear to be based on *a priori* rules whereas Applicants' tables are not. For example, **Seare** classifies ICD-9 codes into categories and provides an indicator to determine

whether an associated CPT code should be included in an episode of care. See e.g., **Seare**, col. 7, ll. 38-40. Seare goes on to attempt a possible assignment of an episode to any patient with an ICD. Id. at col. 8, ll. 19-21. To determine whether the patient can be assigned an episode, **Seare** assesses the qualifying tables to verify specific qualifying factors. Id. at col. 8, ll. 25-28. If the patient's history meets the criteria set out by such qualifying factors, then an episode of care may be assigned.

Such fixed rules and assignment role are not discussed by the Applicants. Rather, Applicants provide procedures to derive these rules and associations. Here lies the crucial difference. On one hand, **Seare's** approach in creating episodes is based on *a priori* rules. On the other hand, Applicants' approach is performing calculations according to a procedure to determine whether two diagnoses belong to the same episode based on the similarity between diagnosis 1 and diagnosis 2, as well as the time difference, Applicants allow for the probability of these diagnoses to be estimated for determining whether they belong to the same episode. See **Specification**, paras. [0027]-[0029]. Any pairwise probabilities belonging to the same episode may then be used to classify a diagnosis into a group. Id. As such, this kind of classification by its nature is not based on *a priori* rules.

If one were to combine **Seare** with **Ziegele** so as to disclose a probability analyzer, the **Seare-Ziegele** combination would analyze the cost-effectiveness of historical provider billings patterns based on *a priori* rules setting for links between one or more diagnostic information records with one or more prescription information records. This linkage would be accomplished using **Ziegele's** automatic data linking method. See **Seare**, Abstract ("A method and system for analyzing historical medical provider billings to statistically establish a normative utilization

profile."); **Ziegele**, paras. [0011], [0014], [0023]. Any probability calculated from this linkage is based on a diagnostic-to-prescription relationship.

On the contrary, Applicants' probability analyzer is fundamentally different from what the **Seare-Ziegele** combination would create. First, Applicants' probability analyzer does not involve diagnostic and prescription data. Rather, it involves comparing only diagnostic data. See **Specification**, paras. [0027]-[0029]. In other words, the relationship that Applicants compares is a diagnostic-to-diagnostic relationship.

Second, the diagnostic data being compared are part of the same episode. See **Specification**, paras. [0027]-[0029]. Even though **Ziegele** calculates a correspondence probability based on diagnostic and prescription information records, **Ziegele** does not appear to be comparing such data against the same episode or the same kind of episode. As previously argued, **Seare** and **Ziegele** explain that their episode revolves around healthcare services, whereas Applicants' episode does not. See supra § II.B.1. As a result, the **Seare-Ziegele** combination would not disclose comparing diagnostic data based on the same episode as that of Applicants'.

Based on these substantial differences, Applicants believe **Seare's** historical medical billings analyzer in combination with **Ziegele's** probability analyzer does not read upon that of Applicants' claimed invention. Therefore, Applicants respectfully request that the § 103(a) rejections be withdrawn.

3. The pairs of diagnosis comparisons that Seare and Ziegele disclose do not involve comparing pairs of diagnosis records like that of Applicants.

Examiner states that **Seare** teaches pairwise comparison of diagnoses. See Office Action (dated 07/09/2008), p. 7, paras. 4-5, p. 17, part D. Examiner also combines **Seare** with **Ziegele** as Examiner believes **Ziegele** teaches a probability calculator, which also operates on pairwise data, which include diagnoses pairs. Id.

In rejecting the claims submitted on the 09/19/2007 Amendment, Examiner emphasized that Applicants relies largely on unclaimed suggestive material from the specification. See Office Action (dated 07/09/2008), p. 17, part D. While Applicants do appreciate Examiner's concern, Applicants respectfully wish to direct Examiner's attention to Claims 5 and 7 of the 09/19/2007 Amendment. Both these claims speak to the pair of diagnosis records and/or diagnosis pair. Thus, Applicants believe the support for the 09/19/2007 arguments were founded on claimed suggestive material from the specification.

Having clarified this point, Applicants now wish to turn Examiner's attention to pairwise analysis of diagnosis records. The sections below first point out what **Seare** discloses, then what **Ziegele** discloses, and followed by a discussion between what a combination of **Seare-Ziegele** would disclose and the Applicants claimed invention.

a. Seare's comparison of a client profile with a reference table is not the same as comparing one diagnosis record with another diagnosis record.

With respect to **Seare**, it is again a matter of grammatical interpretation. Applicants respectfully invite Examiner to look at what **Seare** is emphasizing. Throughout the **Seare's** detailed description, **Seare** is not comparing one diagnostic record with another diagnostic record. Instead, the two profile sources that **Seare** uses for comparison are different entities, namely (1) client profiles and (2) reference tables. See e.g., **Seare**, col. 20, ll. 8-10. For

instance, **Seare** is comparing (1) a client specific profile to (2) a reference table. Id. at ll. 10-11. **Seare** is also comparing (1) a subset of the client's data (e.g., single provider) against (2) a reference table or the client's profile. Id. at ll. 11-13. **Seare** is also comparing (1) a different subset of the client's profile to (2) a different subset of the reference table. Id. at ll. 13, 52-53. This type of comparison is exactly like comparing (1) apples with (2) oranges.

The closest Applicants see from **Seare** is maybe **Seare's** comparison of a subset of the client's data against the client's profile. But this aspect is referring to comparing a fraction of a whole to the same whole. Applicants, on the other hand, are comparing one whole diagnostic record with another whole diagnostic record. See generally **Specification**, para. [0004] (suggesting that the present invention does not attempt to reduce the large set of possible diagnoses into a smaller set of clusters because doing so would otherwise force investigators to ignore important differences that might exist between types of infections).

Examiner also respectfully cited col. 24, ll. 38-40 to show where **Seare's** disclosure of speaks of processing of diagnostic records in pairs. These lines state "[f]ourth, **1204**, once the data history has been searched for qualifying circumstances, the valid components of these patient records are then checked against the three inter-relational Index Tables to identify qualifying ICD codes associated with the chosen index code." See **Seare**, col. 24, ll. 38-40. According to **Seare**, the three inter-relational Index Tables are the Index Table, Index Detail Table and Index Global Table. Id. at col. 7, ll. 17-25, col. 8, ll. 38-45, and col. 9, ll. 16-21 and 55-58.

These three inter-relational Index Tables have one thing in common: an episode of care. The Index Table "provides a preliminary filter for assigning and accessing different tables during the Episode of Care process." See **Seare**, col. 8, ll. 51-53. The Index Detail Table, which

groups ICD-9 codes into inclusive or exclusive diagnosis codes, provides a unique grouping for each index code and "is used to drive the search for each episode of care." Id. at col. 7, ll. 35-37. The Index Global Table is used "to identify a generic V code or complication ICD code to be used in an EOC [episode of care] search for any Index code." Id. at col. 9, ll. 44-46.

As discussed earlier, **Seare's** episode of care relates to "all healthcare services provided to a patient for the diagnosis, treatment, and aftercare of a specific medical condition." See supra, § II.B.1; see also **Seare**, col. 23, ll. 9-12. **Seare** further premises diagnosis data on such services by sorting raw data sets, which have undergone RAM [Read, Analyze and Merge] processing, "by index code (i.e. general diagnosis) to find all patient records with occurrence of a particular index code on at least two different dates of service." See **Seare**, col. 24, ll. 18-21. By this definition and additional support, **Seare** intended to include healthcare services as part of a diagnosis.

Even when codes are being compared, they are being compared against something else. The phrase Examiner lifts from col. 28, ll. 61-64 exemplifies this point. There, **Seare** states "[t]he Profile Comparison Reports give the client a comparison of a health care provider's (or group of providers') utilitzation of CPT and/or ICD-9 codes in a specific episode of care against a reference set of utilization profiles." See **Seare**, col. 28, ll. 61-64. The key word here is "against." To what is **Seare** comparing these codes? It is not the specific episode of care. Rather it is the reference set of utilization profiles (or alternatively **Seare's** reference tables). Id.

As can be seen in **Seare's** title of invention and Abstract, utilization profiles are that of a medical provider. See e.g., **Seare**, Abstract. **Seare** clearly states that medical provider utilization profiles are healthcare based services. In particular, **Seare** says that such utilization profiles include "number, frequency and chronological order of services along with other

statistical information (eg, range, mode, confidence interval etc . . .)." See **Seare**, col. 28, ll. 61-66 (emphasis added on the word "services"). These services are not a patient's diagnostic record(s) that describes the course of a given illness. Contrast **Specification**, para. [0005] (explaining that the nature of diagnoses, but not the intensity of doctor visits, is the basis of Applicants' invention).

b. Ziegele discloses using diagnostic-to-prescription relationship in its probability calculations.

Similarly, Applicants reiterate that **Ziegele** teaches a correspondence probability that compares diagnostic information records with prescription information records. See supra, § II.B.2. Such comparison creates a diagnostic-to-prescription relationship. Id. This relationship is not the diagnostic-to-diagnostic relationship taught in the claimed invention. Id.

Examiner identifies paragraphs [0079]-[0080] of **Ziegele** as a reference for operating specifically on a pair of records. See Office Action (dated 07/09/2008), p. 17, part D. However, Applicants believe **Ziegele** does not teach the claimed limitation because the pairs **Ziegele** discloses are two different entities (again, like apples and oranges).

For example, **Ziegele** does use an example of two diagnoses (D_1 and D_2). See **Ziegele**, para. [0079]. However, these diagnoses are used to create combinations with three products (P_1-P_3). Id. In essence, as exemplified in **Ziegele's** table, these combinations are P_1D_1, P_1D_2, P_2D_1, P_2D_2, P_3D_1 and P_3D_2. Id. Quite clearly, these combinations do not show pairs of diagnostic records (such as D_1D_2, which can be viewed as two different apples or two different oranges). Rather each of the combinations has one diagnosis and one product (similar to one apple and one orange).

Moreover, each of the diagnostic-to-prescription combinations is compared against a probability table to gather respective data record. See **Ziegele**, para. [0080]. If any these diagnostic-to-prescription combinations is not on the probability table, then they will not be considered. Id.

c. The prior art combination neither addresses the pairs of diagnosis records nor the probability calculations of Applicants' claimed invention.

Because **Seare** and **Ziegele** compare two different entities, **Seare** and **Ziegele** naturally complement each other, allowing one to see how both may be used in combination for obviousness rejections. While **Seare** compares a client profile with a reference table, **Ziegele** compares a diagnostic record with a prescription record. When combined, the prior art combination would teach a method and system for analyzing historical medical provider billings by (1) comparing either a client profile with a reference table or a diagnostic record with a prescription record, and (2) coming up with a probability assessment by using a probability calculator.

In this case however, a **Seare-Ziegele** combination would not address Applicants' claimed elements with respect to either pairs of diagnosis records or probability calculations. First, as previously discussed, Applicants' pairs of records are based on a diagnosis-to-diagnosis relationship. See supra § II.B.2. It is not about a client profile against a reference table or a diagnostic record against a prescription record. See supra § II.B.3.a.-b.

Second, what Applicants' probability calculation is not doing is assessing a client profile with a reference table or a diagnostic-to-prescription record. Applicants' probability calculation operates on a pair of diagnostic records (i.e., a diagnostic-to-diagnostic record or alternatively, a

diagnosis pair). See **Specification**, paras. [0027]-[0030], [0037]. For instance, a probability P_{ia} may be defined as "the probability that the diagnosis 'i' and diagnosis 'a' belong to the same episode." Id. at paras. [0027]-[0037]. This pair of diagnostic records may be a function of a similarity value and a time between diagnosis value. Id. at para. [0037] (noting that "the probability of being part of the same episode, P_{ia}, should be directly related to similarity of two diagnoses S_{ia}, and inversely related to T_{ia}, the time between the two diagnoses.").

Because of these differences, a **Seare**-**Ziegele** combination does not address what Applicants are disclosing.

Now, for the sake of discussion, let's hypothetically assume **Seare** does disclose the processing of diagnostic records in pairs, as per Examiner's cited reference, **Seare** merely uses these records for determining the episode of care. See **Seare**, Fig. 12, col. 23, l. 1 – col. 26, l. 22 (referring to section entitled "2. Determination of Episode of Care"). However, after making such determination, **Seare** seems to stop there. **Seare** does not further process these pairs by determining the probability of diagnoses belonging to the same episode. Furthermore, **Seare** does not analyze the severity of the episode based on the diagnosis pairs.

In contrast, Applicants go beyond selecting pairs of diagnoses for determining an episode of care. Here, Applicants select at least two diagnoses that are part of the same episode for calculating the severity of an episode. See **Specification**, para. [0027]. Whether two diagnoses are part of the same episode depends on the nature of the diagnoses and the time between each diagnosis. Id. Where a patient receives several diagnoses, the probability of two or more diagnoses belonging to the same episode may be calculated. See **Specification**, para. [0031]. Once calculated, the pair-wise probabilities belonging to the same episode may be used to classify diagnoses into groups. Id.

Furthermore, as previously mentioned, each of Applicants' diagnosis involves an episode of care that does not relate to healthcare services. In fact, Applicants purposely removed the notion of healthcare services from the definition of "episode of care" because Applicants' claimed invention does not consider such services as part of its calculation of the severity of an episode of care. See **Specification**, para. [0025].

In essence, even if one were to continue believing **Seare** does disclose the same kind of diagnosis-to-diagnosis pair as Applicants' claimed invention, one cannot combine **Seare** with **Ziegele** to effectively reject the claims based on obviousness. The reason is because both **Seare** and **Ziegele** still premise their "episodes" on healthcare services. A combination under this hypothetical situation may look like a historical medical provider billings system that compares a diagnosis-to-diagnosis pair based on healthcare provided services. Hence, such combination for obviousness rejections would necessarily fall apart.

Therefore, in light of these arguments, Applicants believe the prior art combination does not address the claimed elements and thus respectfully request Examiner to withdraw the obviousness rejections.

4. Lockwood's severity analyzer differs from that of Applicants'.

Examiner noted that **Lockwood** uses a severity analyzer for performing episode severity calculations. See Office Action (dated 07/09/2008), p. 5, paras. 2-4. Based on **Lockwood's** disclosure, Examiner believes the combination of **Lockwood** and **Seare** read upon Applicants' claimed invention. Applicants respectfully disagree.

Lockwood allows for an objective assessment of the severity of its sickness episodes. See **Lockwood**, col. 4, ll. 52-56. However, each of **Lockwood's** sickness episodes involves healthcare services. "Each sickness episode data record corresponds to an individual sickness

episode for which health-care- services were performed for one of the patients by at least one health-care provider from the group of health-care providers." Id. at col. 4, ll. 48-52, col. 10, ll. 8-12, and Abstract. Furthermore, the severity scores of a case load complexity level are determined for each health-care providers within the group of health-care providers, where each case load complexity level represents a patient's case load that has been "serviced by a particular health-care provider within the group of health-care providers." Id. at col. 4, ll. 56-61 and Abstract.

As previously explained, **Seare** also focuses on healthcare services. See supra, § II.B.1-2. Since **Lockwood** also focuses on healthcare services, the combination of **Lockwood** with the other cited prior art thus necessarily revolves around healthcare services. The combination created may look like historical medical provider billings analyzing system that assesses the severity of sickness episodes based on healthcare provided services.

In contrast, Applicants' severity analyzer involves calculating the severity of episodes of care that do not involve healthcare services. See **Specification**, para. [0024]-[0025]. Being their own lexicographer, Applicants have defined their "episode of care" to exclude healthcare services. See **Specification**, para. [0025] (stating that the "episode of care" definition "does not depend on the nature of services delivered, the doctor delivering services, or the site of services."); see also MPEP § 2111.01(IV) (permitting inventors to be their own lexicographer). If Applicants were to include healthcare services in measuring the severity of episodes of care, Applicants would defeat their inventive purpose – to identify episodes of care and measure their severity according to the nature of the diagnosis, as opposed to the intensity of visits. See **Specification**, paras. [0001], [0003]-[0006].

To allay Examiner's concern of impermissible reading of limitations from the specification into the claims, Applicants have also amended the claims to address this distinction. The amended claims show that the term "episode", which is interchangeable with "episodes of care," excludes healthcare services. See supra **Amendments to the Claims**; see also supra § II.B.1. Applicants believe these claim amendments show how Applicants' type of "episode" is distinguishable from **Lockwood**, **Seare**, and **Ziegele's** "episode of care."

Because of this important distinction, the prior art combination therefore cannot read upon Applicants' claimed invention. Thus, Applicants kindly request withdrawal of the obviousness rejection.

C. Dependent Claims 2-6 and 8 depend on Independent Claims.

Because Dependent Claims 2-6 and 8 ultimately depend on their respective independent claims, the arguments presented for the independent claims also apply to these dependent claims. Therefore, Applicants respectfully request withdrawal of these objections.

Respectfully submitted,

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